

Appl. No. 10/027,987
Amdt. dated Feb 3, 2004
Reply to Office action of Nov. 19, 2003

Amendments to the Specification:

Please replace paragraph 0007 with the following rewritten paragraph:

--[0007] In one embodiment, the present invention provides a system for generating electricity from a wind that includes an enclosure, a wind turbine/generator and two or more air ducts. The enclosure, which is to be mounted within or in close proximity to a building, has an air intake and an air exhaust. The wind turbine/generator generates electricity from the wind received from the air intake and is disposed within the enclosure between the air intake and the air exhaust. Each air duct has a first end connected to an air duct intake device and a second end connected to the enclosure air intake.--

Please replace paragraph 0008 with the following rewritten paragraph:

--[0008] In another embodiment, the present invention provides a building adapted to generate electricity from a wind having an enclosure, a wind turbine/generator and two or more air ducts. The enclosure is disposed within or in close proximity to the building and has an air intake and an air exhaust. The wind turbine/generator generates electricity from the wind and is disposed within the enclosed space between the air intake and the air exhaust. Each of the two or more air ducts has a first end connected to an air duct intake device mounted on an exterior of the building and a second end connected to the enclosure air intake. Using both internal and external intakes, both the structure and internal convection current are used to increase the airflow and consequently the power generated by the wind turbine/generator.--

Please replace paragraph 0013 with the following rewritten paragraph:

--[0013] Turning now to Figure 1, one embodiment of the present invention is disclosed that shows a structure or building 10 illustrating the use of both external and internal airflow. The structure or building 10 may be either a residential or a commercial building well known to those of ordinary skill in the art in the construction and real estate industry. The building 10 may be manufactured of any conventional building material such as wood, brick, concrete or metal. Located within the building 10 is an enclosed space or enclosure 20. The enclosure 20 may be a typical attic of a residential building 10 or of any open area within a commercial building 10. The enclosure 20 may also be a smaller enclosed space within the attic of the residential building 10 or open area within a commercial building 10. The enclosure may include sound insulation. Enclosed within the enclosure 20 is a wind turbine/generator 30 of any commercially available type that is of suitable size and strength for use with the present invention. Wind turbines of this type are well known to those of ordinary skill in the art and may also be referred to as wind generators or wind turbine/generators. The wind turbine/generator 30 of the present invention may also be located and mounted in either a horizontal (Figure 1) or vertical manner (Figure 2) and may be constructed of noise dampening and vibration dampening

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materials in order to reduce the amount of noise and vibration created by the generation of electricity from the wind turbine/generator 30. Alternatively, the wind turbine/generator 30 can be mounted on a vibration dampener 32.--

Please replace paragraph 0014 with the following rewritten paragraph:

--[0014] The present invention may also include a processor or controller 34 (not shown), such as a computer or programmed logic controller, for monitoring and controlling the wind turbine/generator 30 and directional inlets of the air intake opening scoops 50 (described below). The wind turbine/generator 30 and directional inlets of the air intake opening scoops 50 (described below) may also be controlled by a building central computer or processing unit that regulates the generation of electricity based upon the needs of the building 10 itself. The wind turbine/generator 30 of the present invention will be connected in a conventional manner to the power supply of the building 10. The wind turbine/generator 30 may also be connected to the power supply of the building 10 in such a way that allows excess power to be sold back to the utility company when the power generated by the wind turbine/generator 30 exceeds the power requirements of the building 10 (e.g., windy nights).--

Please replace paragraph 0015 with the following rewritten paragraph:

--[0015] Connected to the wind turbine/generator 30 of the present invention, in one embodiment, are two or more air ducts 40 having both first and second ends 42 and 44, respectively. The air ducts 40 have air intake openings 50, which are positioned in a non-axial relationship to the wind turbine/generator 30 and are attached at one end of the air ducts 40, the air intake openings 50 funnel the air through the air ducts 40 until it (air flow 52) reaches a focusing device 56 at the air intake 36 of the wind turbine/generator 30 for generating electricity. In at least one embodiment, the air intake openings 50 are of a scoop-type construction, which allows more air to enter the air ducts 40 that is found in a normal circular or other type of opening disposed on the outside of the air ducts 40 of the building 10. In one embodiment, the air intake opening scoops 50 have directional inlets that change the direction the scoop 50 points to align itself with the direction the wind is blowing. Although, the air intake scoops 50 can be placed anywhere on the building 10, the air intake scoops can be strategically located on the building 10 to take advantage of higher airflows on and around the building 10 that are caused by the building 10 itself, such as roof ridge tops and intersections, along building lines and under roof eves at the top of an exterior wall. Moreover, small ridges or other wind breaks can be used to funnel and force wind into the scoops 50. These wind breaks or channeling means can be incorporated into the design of the building 10 to minimize any undesirable aesthetic effect.--

Please replace paragraph 0016 with the following rewritten paragraph:

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--[0016] In at least one embodiment of the present invention as shown in Figure 2, other air ducts 40 have a greater cross-sectional diameter near the air intake openings 50 that decreases gradually along its length. This change in cross-sectional diameter allows for a Venturi effect thereby increasing the velocity of the air that enters through the air intake opening 50 before it reaches the wind turbine/generator 30. Having a greater airflow, this design, creates more electricity to be generated by the wind turbine/generator 30. Similarly, additional airflow can be obtained by joining additional air ducts (not shown) having a smaller diameter than the main air ducts 40 to the main air duct 40 at an acute angle, such as thirty degrees, to create a vacuum effect in the smaller air duct.--

Please replace paragraph 0017 with the following rewritten paragraph:

--[0017] As the air passes through the wind turbine/generator 30 it generates electricity, which is then connected in any conventional manner to the building's 10 normal utilities (not shown). Any excess electricity may be stored in batteries or other storage devices for later use. In one embodiment, the wind turbine/generator 30 may generate sufficient electricity to supply all of the power requirements of the building 10. In an alternative method the excess electricity generated by the wind turbine/generator 30 from the airflow may be sold back to a public utility in order to reduce the cost of the energy supply for the building 10.--

Please replace paragraph 0018 with the following rewritten paragraph:

--[0018] Also shown in Figure 1 is that the building 10 has a typical exhaust vent 60 for the airflow 54 to exit the air exhaust 38 of the wind turbine/generator 30. The excess airflow exits the enclosure 20 of the building 10 after having gone through the wind turbine/generator 30. In one embodiment, some or all of the airflow from exhaust vent 60 may be redirected back into one of the air ducts 40 to provide additional airflow as shown by dashed line 62. Additional sources of airflow may also be obtained from vent pipes by directing the exhaust from dryers and air conditioning units into the enclosure 20. In addition, the warm or hot air in the top of an attic can be collected and directed into the enclosure 20.--

Please replace paragraph 0019 with the following rewritten paragraph:

--[0019] Turning now to Figure 2, a second embodiment of the present invention is shown. In this embodiment the wind turbine/generator 30 is also located within the space 20 which may be an attic of the building 10. Figure 2 also discloses an air intake opening 50 located on the air duct 40 that funnels the wind through the wind turbine/generator 30 to generate the electricity for the building 10. After the wind has gone through the wind generator, it is exhausted through an opening 70 via duct 72. In this embodiment, opening 70 is covered by a grill 80. The grill 80 may be mounted to the exterior of the building 10 and for example, could be located along the eaves of a typical residential

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structure or commercial building 10. The grill 80 may be of any type shape, geometry or material as long as it is capable of allowing the exhaust air to leave the building 10.--

Please replace paragraph 0020 with the following rewritten paragraph:

--[0020] In addition, air ducts 40 may have an angled slope 90 which helps to increase the velocity of the air flow coming in through the air intake opening 50 before it hits the wind turbine/generator 30. The angled slope 90 increases velocity of the air and thus aids in the generation of electricity.--

Please replace paragraph 0021 with the following rewritten paragraph:

--[0021] Turning to Figure 3, in yet another embodiment of the present invention, a plurality of air ducts 40 are connected to the structure or building 10 and the enclosure 20. The air ducts 40 may be manufactured with either rigid or of a flexible material 100. In addition, the enclosure 20 and the wind turbine/generator 30 may be located on the exterior of or in close proximity to the building 10 instead of being disposed within the building 10. Figure 3 also illustrates both a typical air exhaust opening 60 and outside air exhaust duct 65. In addition, Figure 3 demonstrates that the airflow to the wind turbine/generator 30 may be delivered in a variety of ways as long as there is sufficient velocity to generate electricity from the wind turbine/generator 30 (multiple ducts 40 feeding into intermediate duct 46).--

Please replace paragraph 0022 with the following rewritten paragraph:

--[0022] Figure 4 discloses yet another embodiment of the invention, wherein the air ducts 40 may be located either under a structure or building 10 having a pier and beam foundation or within a basement of a building 10, such that air flow may also be obtained from the basement area or may deliver air to the basement area in order to achieve more air velocity through the wind turbine/generator 30. The air duct 45 is connected to the air ducts 40 might be used to create a partial pressure differential in the air flow and, thus, increase the velocity of the air across the wind turbine/generator 30.--

Please replace paragraph 0023 with the following rewritten paragraph:

--[0023] Turning to Figure 5, disclosed therein is that the wind turbine/generator 30 may also be located in a basement area of the building 10 with the exhaust 54 going through exhaust duct 65 and grill 110 from the ground itself or through a grate next to the building 10. As shown, there are numerous configurations of the present invention that may be combined without any necessity to use all or any particular configuration to achieve the results of the invention. The varying cross-sectional air ducts 40 may be combined with the air intake scoops 50 or flexible air ducts 100 or not. The wind turbine/generator 30 may be mounted either on the outside of the building 10; the base of the building 10 or in the enclosure 20. Indeed, a plurality of wind turbine/generators 30

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may be used in series to generate electricity if the building 10 is large enough to warrant more than one wind turbine/generator. An outside air exhaust 60 or 110 may be used. The configurations are limitless as long as sufficient wind velocity is achieved to generate sufficient cost-effective electricity for the building 10.--

Please replace the Abstract with the following rewritten Abstract:

--The present invention provides a system and building for generating electricity using wind power. The invention includes an enclosure, a wind turbine/generator and two or more air ducts. The enclosure, which is to be mounted within or in close proximity to a building, has an air intake and an air exhaust has an air intake and an air exhaust. The wind turbine/generator generates electricity from the wind received from the air intake and is disposed within the enclosure between the air intake and the air exhaust. Each air duct has a first end connected to an air duct intake device and a second end connected to the enclosure air intake.--